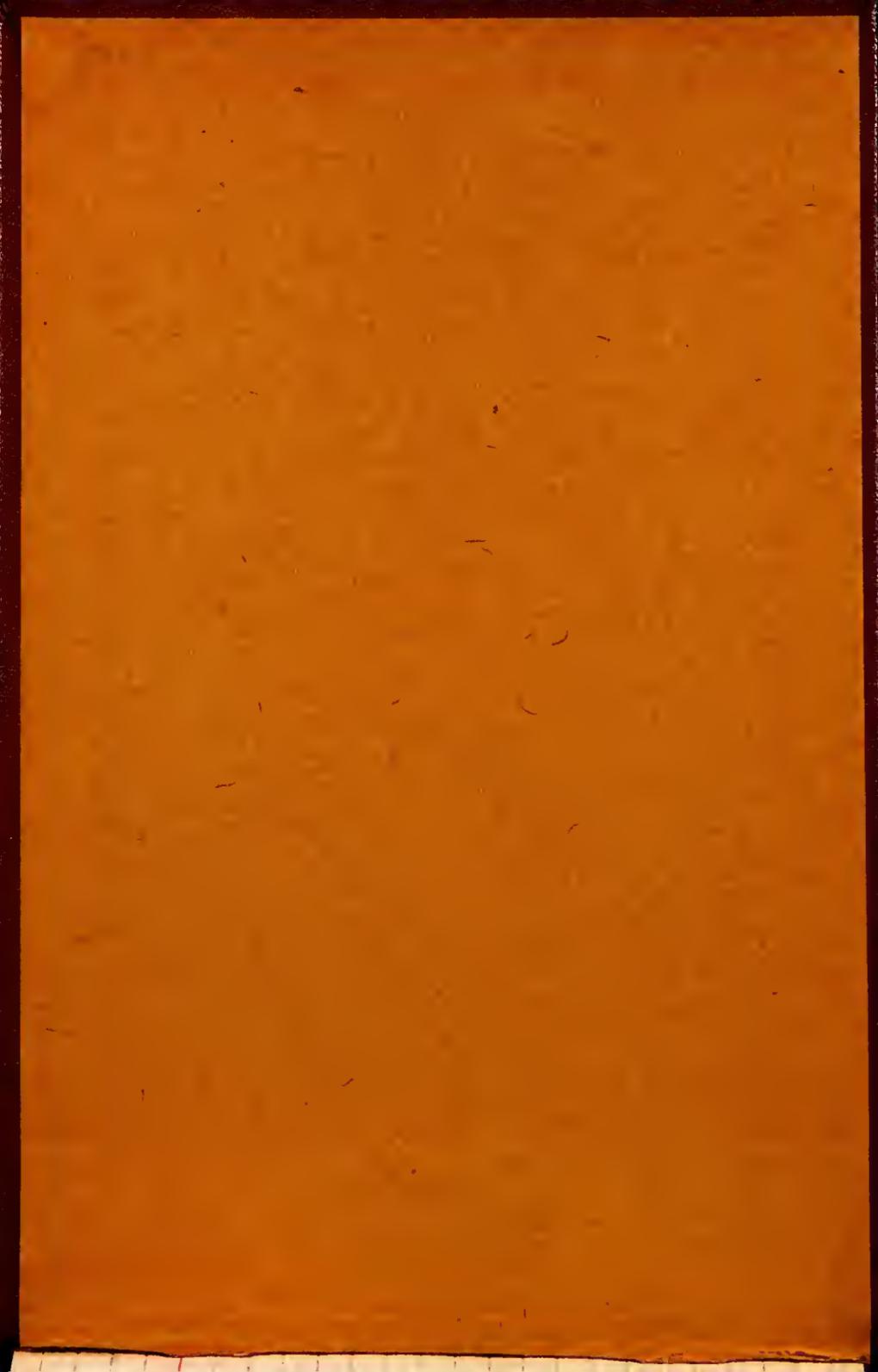


UNITED STATES
DEPARTMENT OF THE INTERIOR

DI-6

APPROVED DECEMBER 1941



1988 Summer trip to Montana -
Wyoming

7/24

Left New Haven @ 6:20 bx
lim. to La Guardia

Flew to Denver

- Drought conditions
evident in browning of
fields and thin cover.

Denver to Billings

Fires in Wind River
Range & Absarokas.

Met bx Kirk (in) news of
a dead battery & tire
problems.

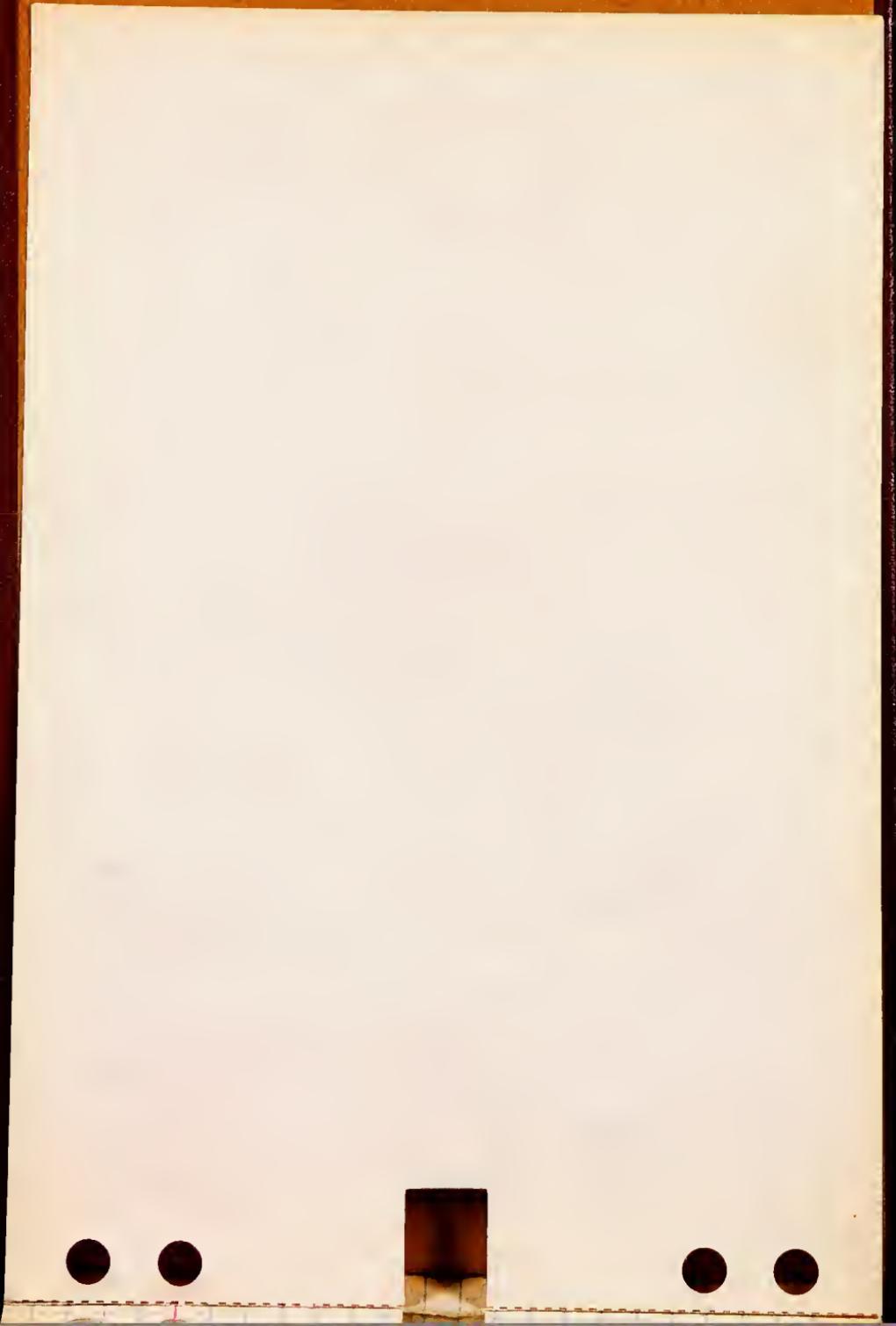
Jagod Hicks had to take off
to Alaska

7/25

DAY IN CAMP & IN Red Lodge
reading Blazer & self
for field

7/26

Left for Missoula Mont.
q.t 10:30 arr abt d:30



7/26

HOT & CLEAR.

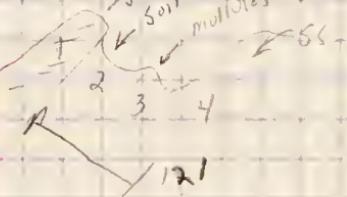
NW 1/4 SEC 33 TGN RISE, WHEATLAND CO.,
MONT.
doc. 881 = KRJ 88141

SIMPSON QUARRY OF KREUSE,
IN THE BEAR FM.

VERT DATE IS
PVCAN

SECTION CONSIST OF TAN TO
GREEN SS LENSES & BEDDING.
BEDDED VF G.
W/INTERBEDS OF SH. &

NW MUDST. →
SOIL ROOTS MULTIFLORAS IN SIT & MOD PLANTS.



1. BEDDED VF G. SS.
2. BROWN MUDST. W/SLICKS.
ROOTED, NO BEDDING REMAINS.
3. MOLLUSK LAYER. SILERITIC & W/
MUDST. ROOTS, SLICKS,
POOR TEXTURE

4. SS.



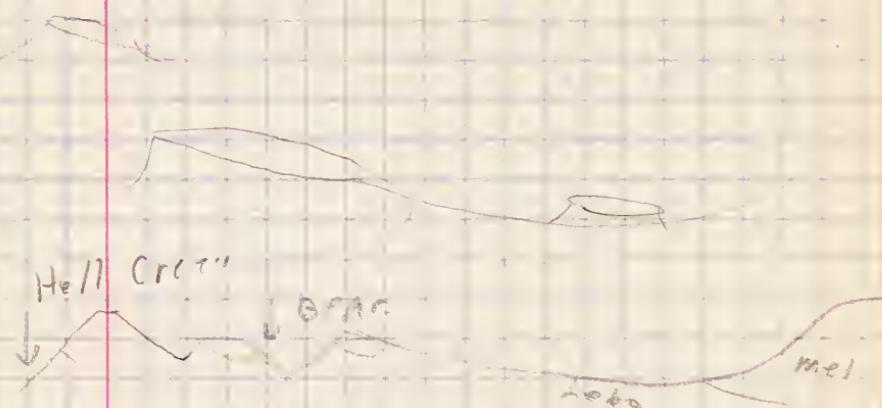
7/26/68

Loc. 881 (cont.)

LEAVES:

PLATANUS RAYMONDII ~~very~~
dom

CERCID. JENII? (base only)
INOCULUS HESPERIA
TAXODIUM DISTICHI



Above The Quarry
S.E. & up section
ledges become more
seaward & make up
steeply less of the
section.

Debo Fm. must form the
broad valley here
W. The Tree covered
FLUVIAL Meissville forming
the tree covered slopes
of the south valley wall.



7/26/88

881

Lebo is a SWALE
HARD TO SEE ITS
Character.



Helville - light colored ss.

Lebo - Darker Olive Grey

Bear. -

7/27

802 Lebo ledges

Equisetum in tops of
distal splays

grey mudstones.

Siderite in base of ss.

Some Fresh water ls.
IN Chs.

Gordon Wash at Coopers R.

- Known loc. of Lebo
Plants.



Cooney Branch

7/27/88

Bob & Lorraine Cooney

- Lebo ss w. lens cap at
house

Platanus guillainii
Tilia or *Populus*

Bear Lebo

Bear ss are generally light in
color

Lebo olive grey shs.
ss. dark brownish.



7/27/88

Lebo Fm.
N. end of

Mudstone dominated seg.

DARK grey to brownish grey

weathering

Soil development

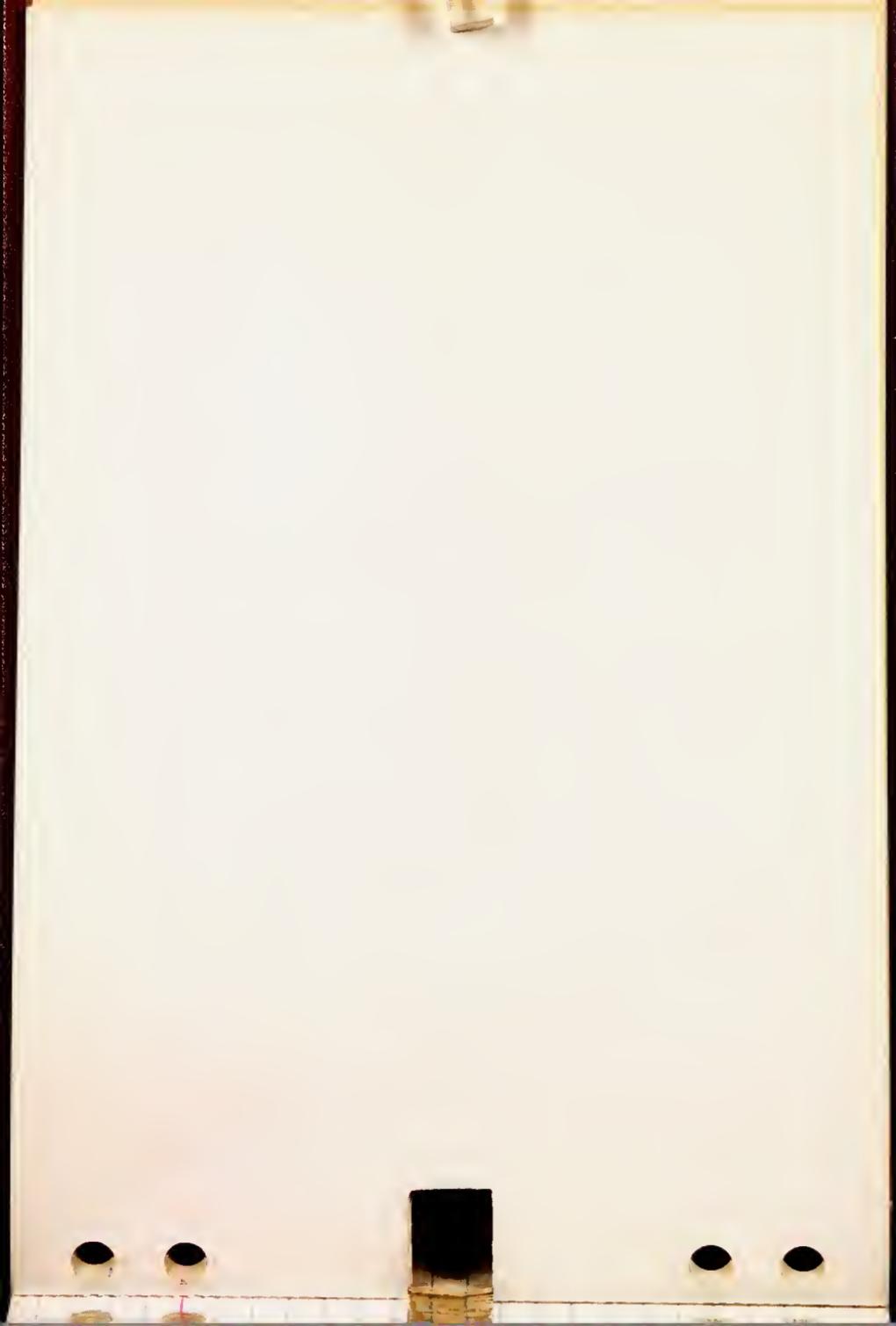
Reddish wh. siderite cones
1.5 layers.

Tens of dirty brownish ss

2 m. thick w. clay
pebbles at base and
bottom.

Wh. grey & tan.

beds just like
Lebo of B.H.B.



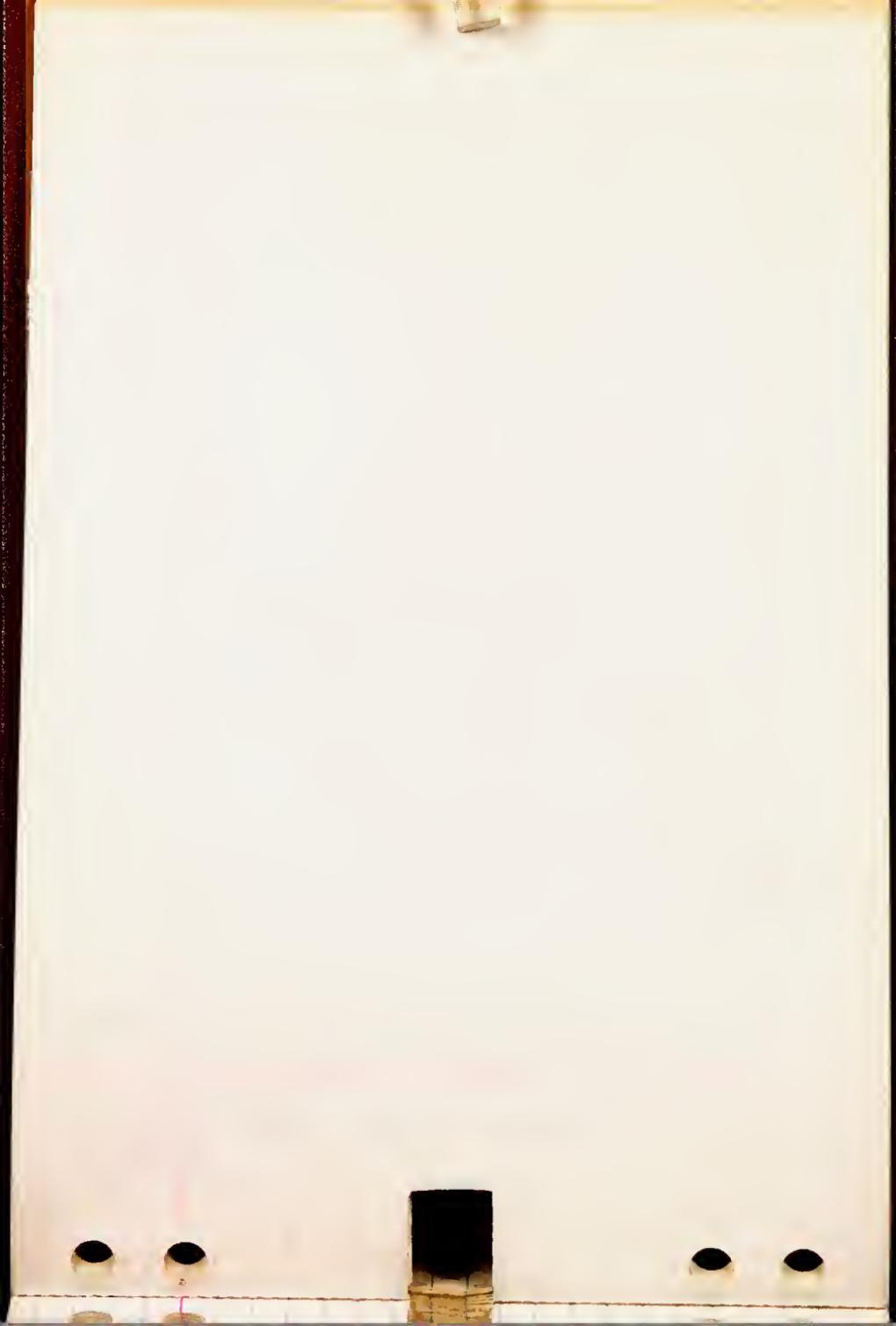
7/27/88

Loc 884 - KAJ 88143

- SW 1/4 Sec. 2, Twp. R. 14E.
Sweetgrass Creek McElville Quad.

Mid. portion of a 0.8m thick
bedded ss., w
rare fresh water ls.
clams.

Platanus guillime
Alnitos
Trochodon decolor
Acer silberbergii



885

Lebo

7/27/88

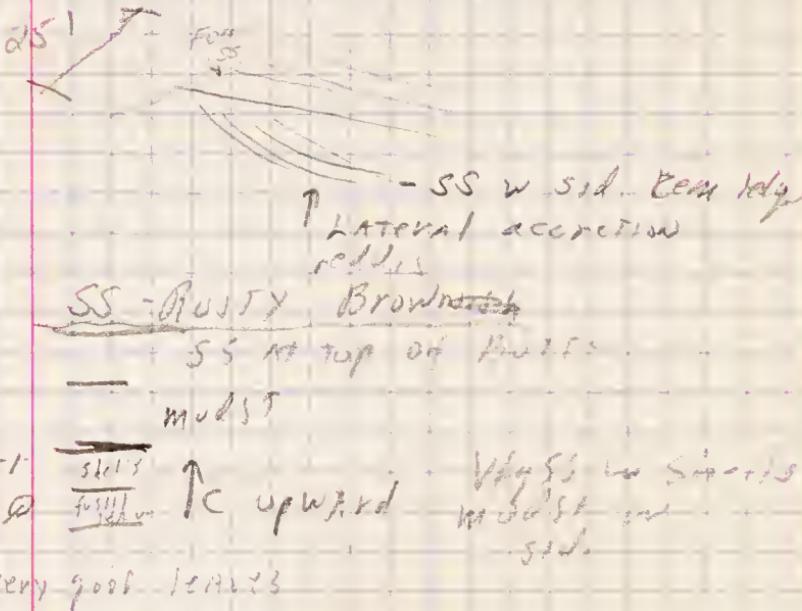
Sheep Feeder Loc.

McIlvane, NW Quad

Upper Tan.

Mudstone / Sh. sequence

Siltstone in mudst.

*PIAT. guilleminii**PIAT. RAYMONDII**OCCIL. FRANCIS**GINKGO (daintordes)**EUCOMIMA SERRATA**Viburnum ANTIGORDON**Glyptostrobus europaeus**Cornus NelsASCENSIS*



7/27/88

586

Lower Melville

SITE

Lower Tiffany

Zingiberopsis
Metasequoia



7/28/88

Introduced Doug Nichols &
Janet Brown to
Fort Union Fm.

Scorpion Hollow.
Lacustrine.

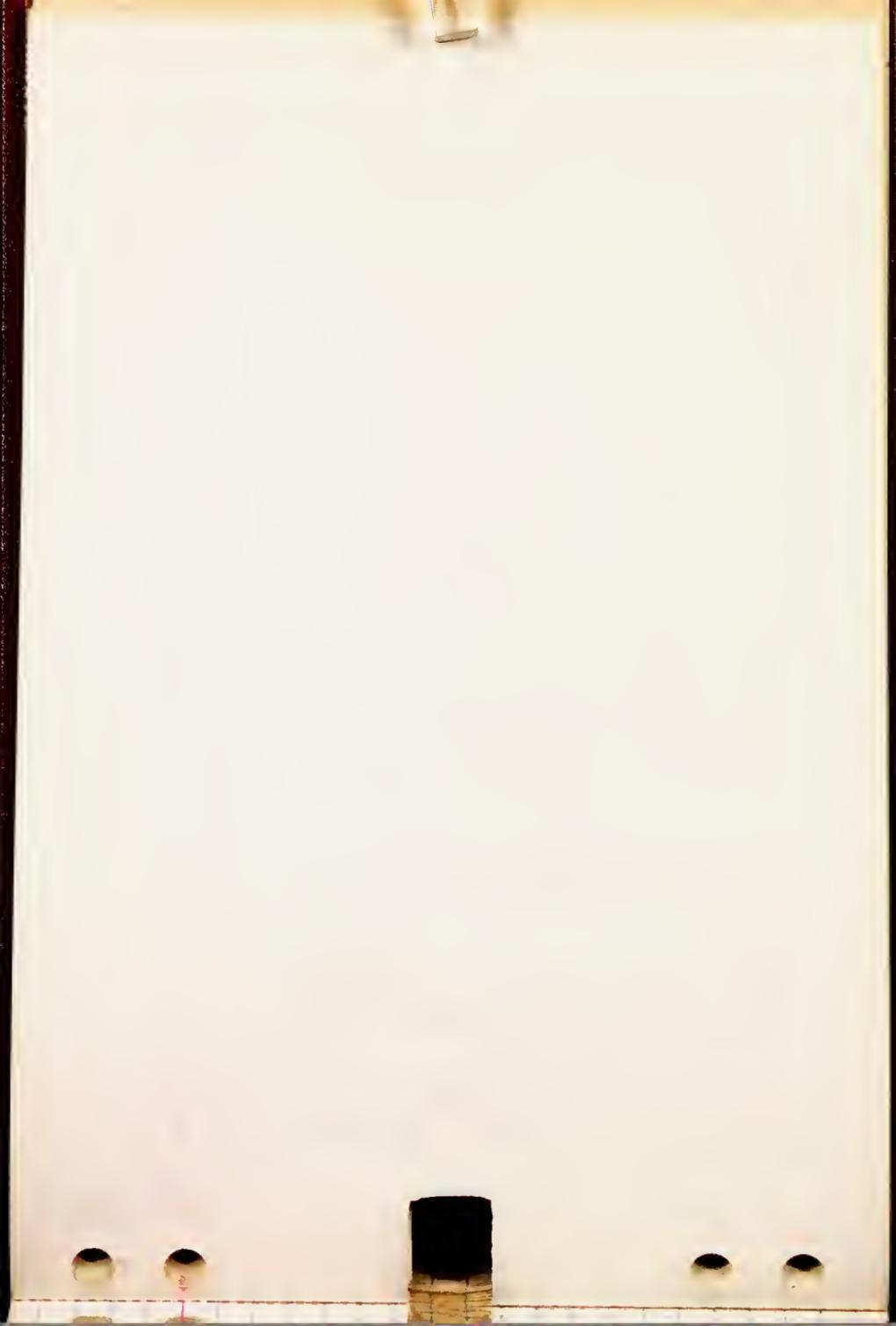


7/29/88

887 Grimey gulch

CARB SHALES immediately above
COAL of UNIT #6 of
See 8627.

Pistia corregata ?



7/30/88

McSaverde /
Meeteetsee ss

SW, SW, Sec 2, T 88 R, 23 E

Carbon Co., Wyo.

HATCHET PASS Quad.

Judith River ss forming
large CUESTA
FLAT & planar & bedded
well ind.
w SKolithus TUBES.
Grey Shale above.
Next ss up w/ SKolithus
Then lignite.

Zooids like trididemnum
w/ marine influence
in channels.

Meeteetsee

Polyvalvula fossil.

Multif. sili.

ss tan rusty brown
weathered.



7/31/88

Loc 888.

DINOSAUR Loc.

Meeteetse Fm.

25m above top of
Lewep

Ischium? in place.

- w/ other large bones.

- in a tan silty mudst.

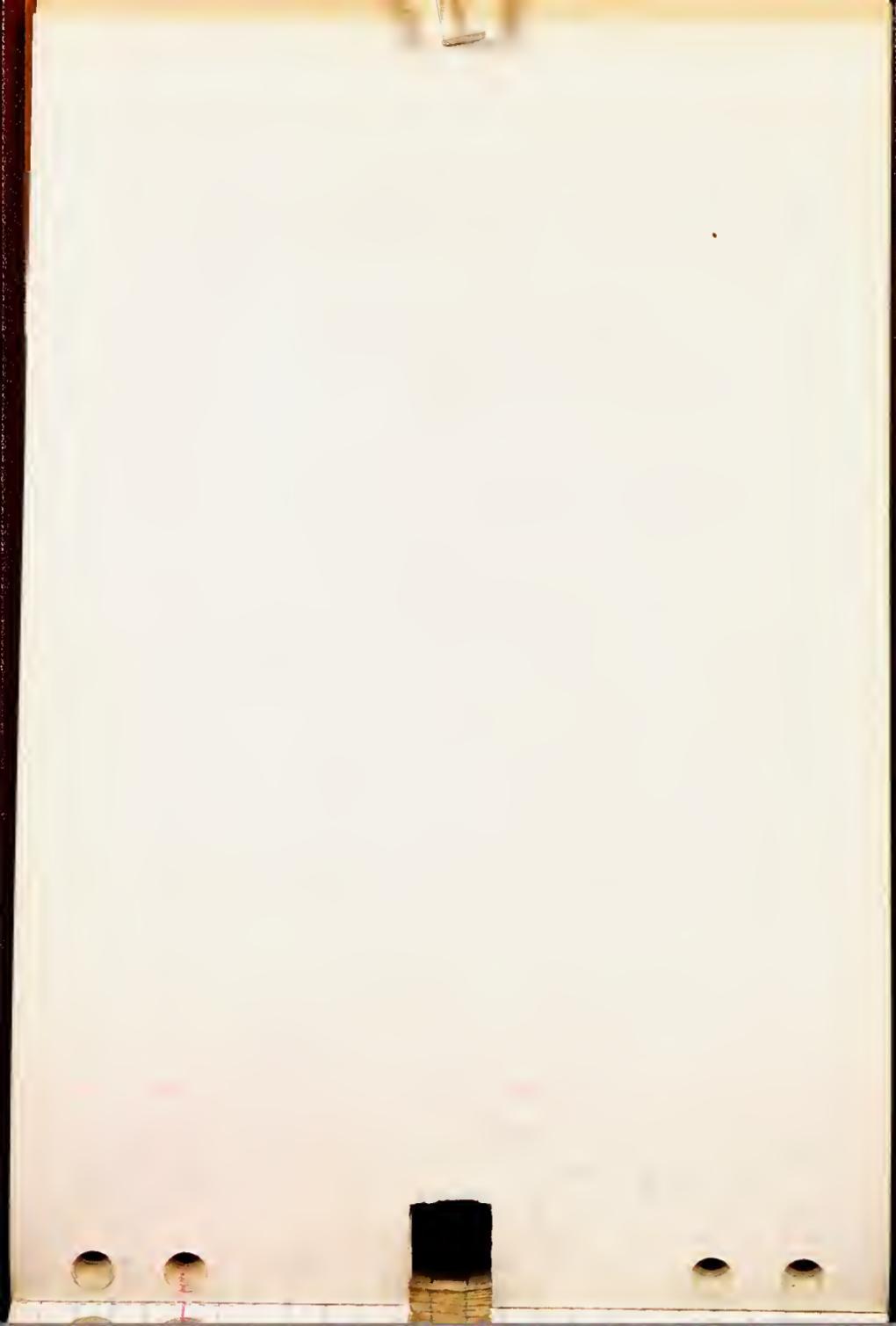
207°. From gate in section
fence at end of
road

SW, NW, NW, NE Sec 15.

T 8S, R

1500 m N, 800 m E SW cor.
Sec. 15 T 8S, R 23E,
Carbon Co., Mont.

Age of this may well be
Edmontonian - latest Campan.
Early Maastrichtian



8/11/88

KLM

w Jason

889

Ridge Crest

NE, NE, SEC. 1

TSFN, 1/100 W

PARK CO Wyo

EIK BASIN 7 1/2'

30 yds NW of Pumpin

1st Marine Tongue.

Trace fossil. JACKING
5-sided TRACES.

TABULAR SS. & Shales
med grey in color

30' THICK.

CAPPING a ridge

FLUVIAL SS. ON DIP
Slope.

2nd Marine looks thru
or non existant



8/11/88

W Jason Hicks

bottom of Scorpion Hollow

Section

located as strip at 8/11/88

MEETERS

NE, SE, SEC 1, T 57 N, R 100 W

Park Co., Wyo.

- SKULLS IN SAND AT
NEAR TOP OF SECOND
MARINE TONGUE
- LARGE FAULT OR DIKE
CUTS 1ST MARINE MBR.
FRACTURING 025 AT NW 73°
- IN THIS AREA, WE HAVE
BOTH UPPER & LOWER MARINE
TONGUE BUT
FEWER TRACE FOSSILS,
IN 1ST LOWER TONGUE.



8/1/88

~~8/1/88~~

- UNIT MAY BE SOMEWHAT
THINNER TOP TRACES
OF UNIT CAPPED BY
FLUVIAL SS.

2ND TONGUE

Thinner than at
Cottonwood Creek
No marine mollusks
found.
Florula had same
Sepiaian faunes in
lower portion.

Top w/ Skolithos w/ &
Bivalves & Trilobites
Florula ss w/ ls
Clay crust of D

10 cm

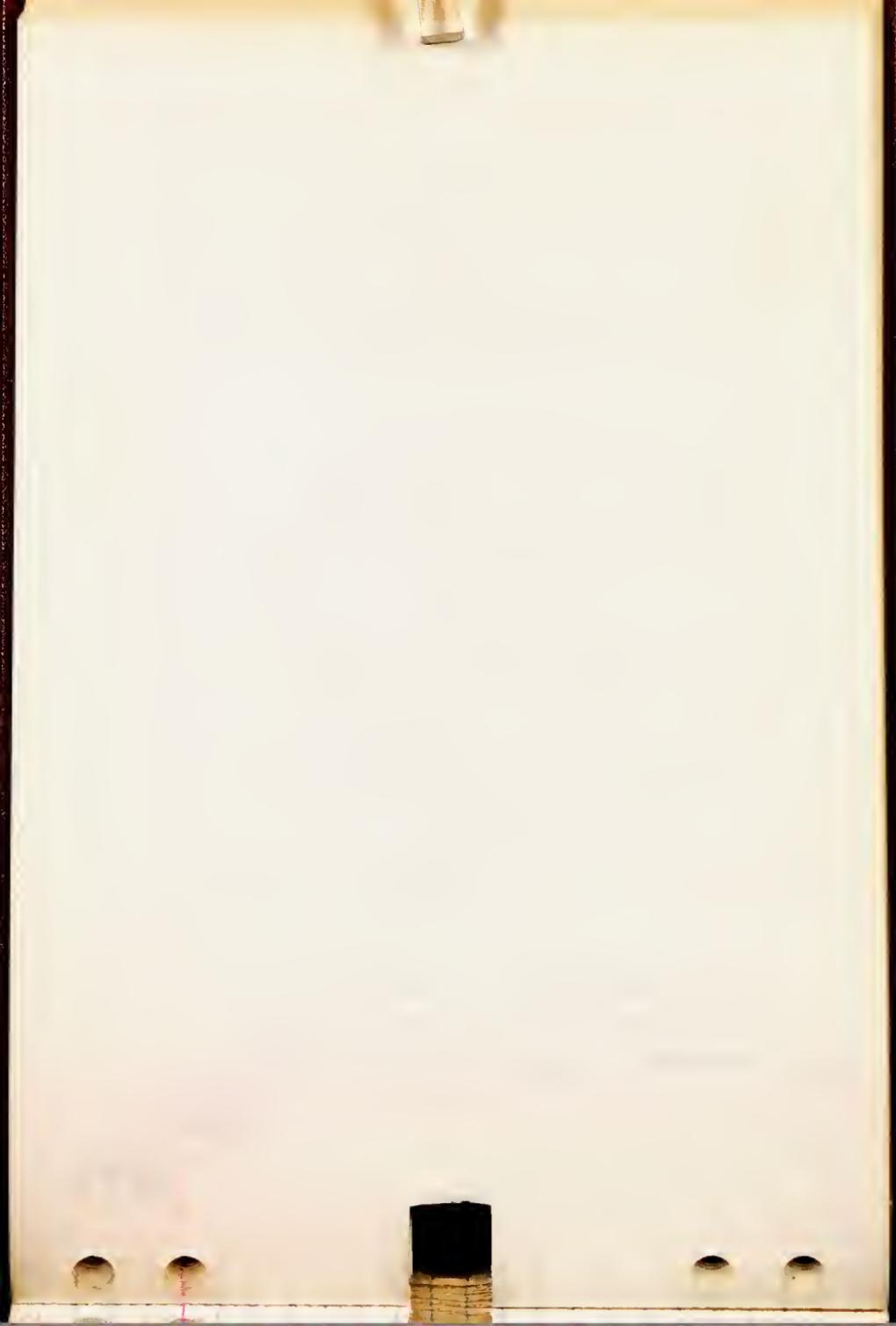
Large - perhaps 75 cm.
≤ 50.0 ft. max

Layer #2

middle soil

Layer #1

Lower Soil



8/2/88

L02.

8811

SW, NE, Sec 23, T 54N, R 102W
Parr Co. Wyo?

ON MAPPED CONTACT:

Hance Meeteetsee

LOOKING AT MEET.

Dip. $71^{\circ} \times 62^{\circ}$ E

Klm looks dark grey w
prominent 2-3m thick
bands & thick
fluvial sand.

Walked w. down section to
CONTACT w. Meaverde
tan to lt. grey s.s
ledges supporting
trees.

Dip. $72-80^{\circ}$ E.

Meeteetsee w COALS IN
2nd 1/4

BASAL 1/4 is soils &
largess

3rd 1/4 Banded soils w
FLUVIAL lenses.



8/2/88

8811 - (CONT.)

Mesaverde is thin.

Meeteetse 1200 - 1400'

may be as much as 3,000'

8/2/88

8812 Meeteetse LAND. FILL

Upper 35-40 m of.

Meeteetse w/ well developed soils & lignites
DISTINCTLY TERRESTRIAL

Lance is fluvial & very
SANDY at least 100-200
m thick, mainly SS
ledges.

TOPS of some ledges
to FLAT bedded
LIMONITE impregnated

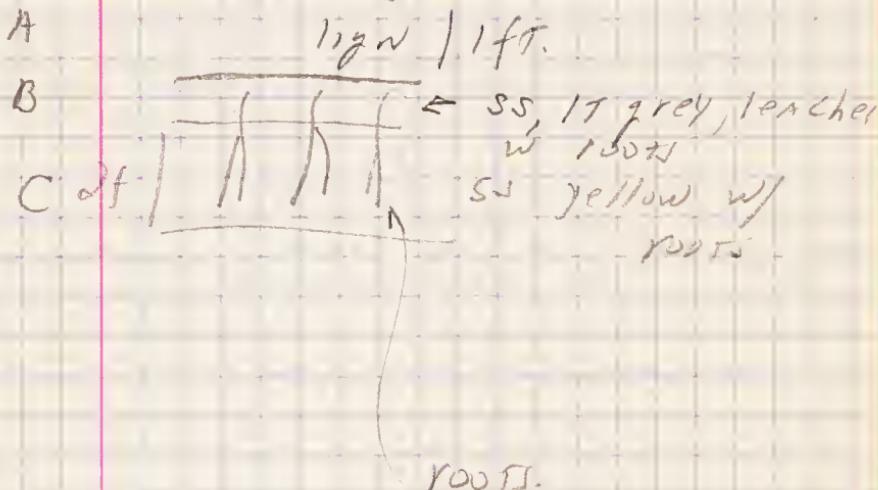


Loc 8812 (contd.)

w. tracks & feeding cans

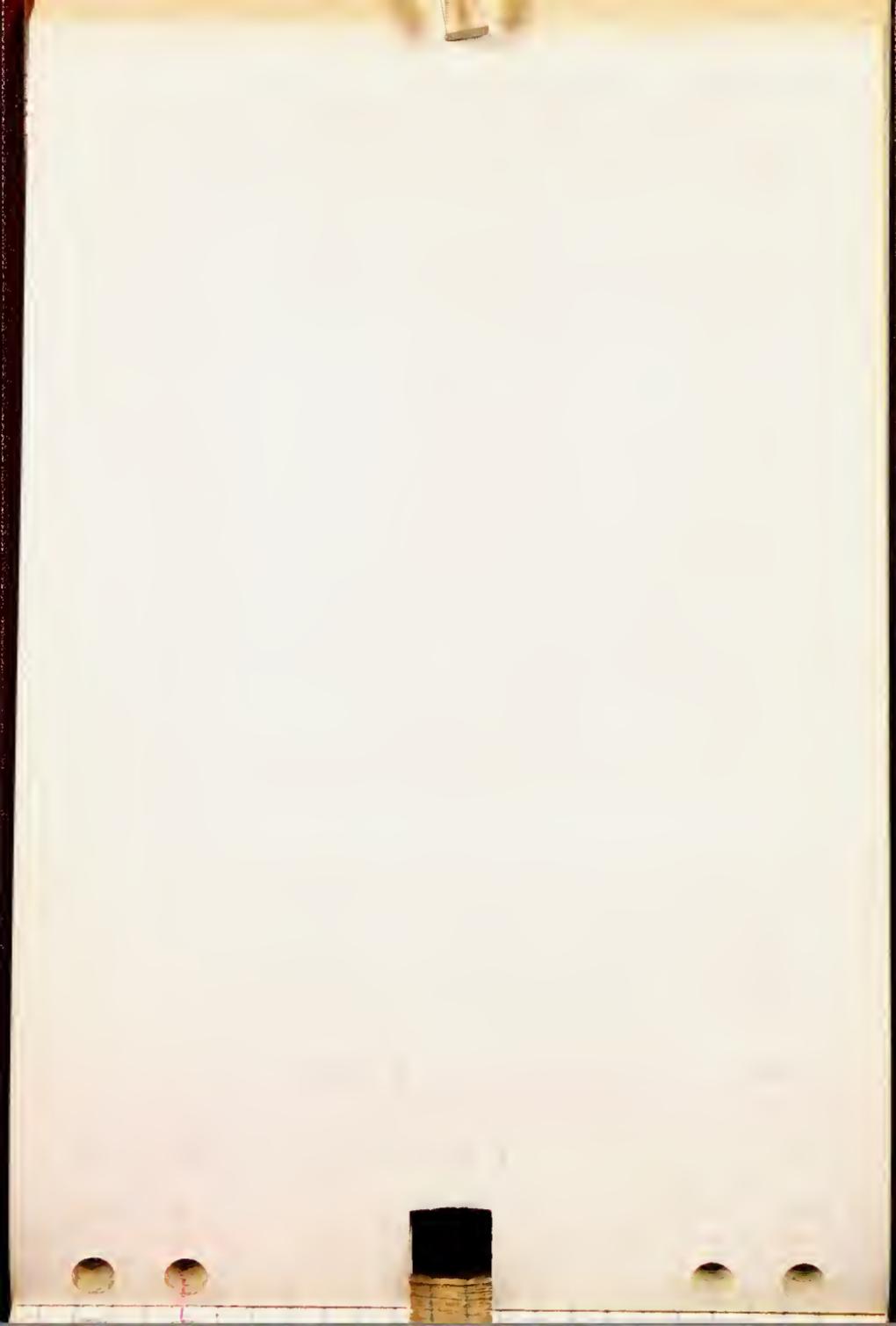
AT base of limestone ledge
found well developed
soil profile as follows

Soil Profile



Some ss w/ vertical roots
penetrating into C horizon

Plant locality at in ~~the~~
midst above a ss.
about 20' above base of



Loc. 8612. (cont'd)

Slope, on boundary fence

Quereuxia angulata

ATAVAGIN. Seeds

EATABLES

PLATANOID leaf



8813

W 1/2, S 1/2 Sec 33, T 49 N,
R 100 W PARK Co. NV.
Merritt W. 7 1/2 Quad.

Banded Metacrase w.
hydrites + soils
looks a bit like the
Marshall Canyon Fm. in
Hibbert

1.4 mi N. on RT 120
from conick of Metacrase

Good Fossil Plant Prospect

W 1/2 S 1/2 Sec 33, T



S of Meeteese on NE 1/4

Mesa Verde-like ss. occupies
much of basal 2/3's of
Fm.

ON Hot Springs Ca Pine
TO EAST of road
tabular bedded material
ss. appears below
a fluvial ss holding
up a ridge to
base of road.



NE 1/4 Sec. 2, T 45 N
R 96 W, HOT SPRINGS
Co. Wyo
Eagle Pass 3 1/2
Loc. 6670 of Hewitt
p. 24

2' COALS w/ interbedded
CLAYS & muds & sands
above a white unconso-
l S.S.

ADJACENT TO KOMILOFF
Sec. 2 & 8

✓ for plants.

Nothing except
roots & fragments.

71.4
72.0
6

8/5/88

SW 1/4, SE 1/4, Sec 33, T 49 N, R 100 W
PARK CO WYO

8814

Lignite w Ambar

From about middle
of Mecteese Fm.

in Mecteese West Fm.

660 m w, 145 m N of SE corner
of Sec 33, T 49 N, R 100 W

8815

660 m w, 145 m N of SE corner of Sec 33

SW, SE, Sec 33, T 49 N, R 100 W
PARK CO, WYO

Mecteese w $7\frac{1}{2}$ q

71.7 ± 0.3

PLANT LOCALITY

in grey siltst 3' below
a lignite 2/3 of way

to top of Bluff

60' above base

Elatides
Vitis opulifolia
Crenaria



8815 (cont'd)

Ameroneuron

Cercidiphyllum ellipticum
TYPE

Entire leaf (Rhamnites?)

Equisetum

Anemaria

PLATANUS guilleminii

TAXODIACEAE

Cm

UNIT IS A LAMINATED
SHALE AT
CLAY base
COARSENING upward TO
a ft. grey ss
AT top above
PLANTS.

Then a lignite



816/88

8816 NW $\frac{1}{4}$, NW $\frac{1}{4}$, NW $\frac{1}{4}$ Sec 17
T 6 S, R 18 E, Carbon Co. Mont.

MCKAX Ranch. Quas
LIVINGSTON Volcanics? -
W. fos -

D ELAEDS

D TAXODIOID foliage

FA

PLATNOID

Cone

D CECASTRUS TAURINIANUS?

Ginkgo

OVALPHYLUM

PSEUDOQUECUS

PISITIA

Beds strat below these
have complex Ophioleptids
burnous

These beds overlap at
top of hill

8816 b NE $\frac{1}{4}$, SE $\frac{1}{4}$, SW $\frac{1}{4}$ Sec 8
T 6 S, R 18 E, Carbon Co.

MONT.

TAXODIOID CONCS



8/17/88 SW¹/₄, SW¹/₄, SEC 14, T 6 N, R 15 E,
Wheatland Co., MT.

8817

Ten O'Clock Gate 7' 1/2"

Bear / Hell Creek CONTACT

Bear a dirty tanish
grey ss w vague
roots & carbon frags
on bedding planes

Hell Creek a greenish
grey mudst. &
interbedded ss.

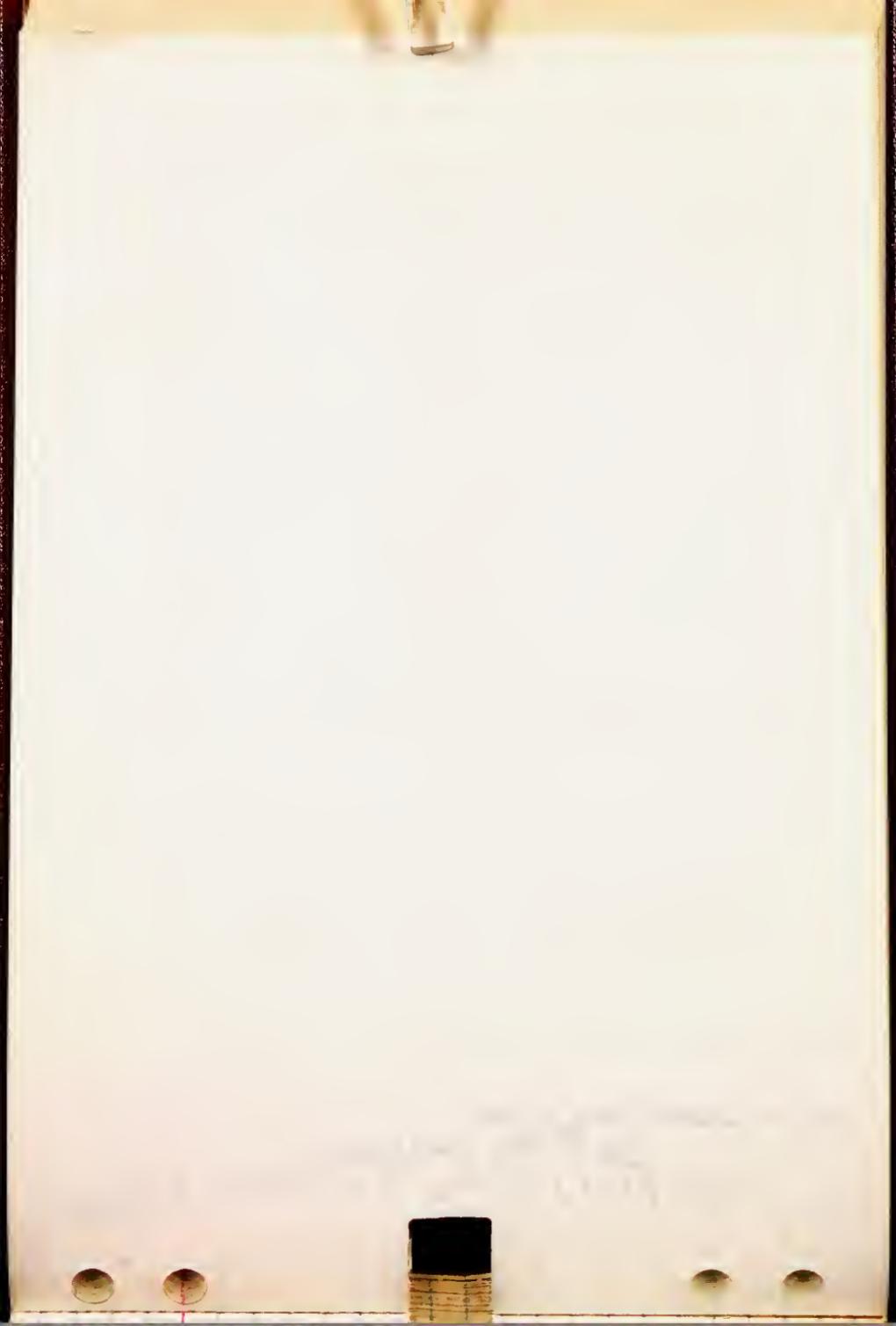
30 - 40 m - below Bear/H C
CONTACT

large, fulsome. worm borrows
in mudstone.

Have taken all of the
organic matter

Dip 63° at 275° strike

~~8817b~~



88176

220
MN, 130 m E SE Cor., Sec 14, T. 6 N,
R. 15 E, Wheatland Co., MT.
Hell Creek K. Ten o'clock gate 7' 1/2

90-150 m below

Beds of NC. Cen. sh.:

MARINE GASTROPODS
in a Limestone lens.

8817C

DARK SS.

8817

gravel

8817₂
↓
Boulders

A

FLUVIAL LAYER

DARK SS. at base of
FLUVIAL SECTION

Bouldered SS. in vicinity
of various. continuous

C is 540 m N, 130 m E, SE Cor. Sec 14.



8/7/88

8817d

660 m N, 300 m E, SW Cor. Sec 14, T 6 N,
R. 15 E, Wheatland Co., MT.
Ten O'clock Gate 7 1/2

Lennep Fm.

Rusty ss x sh.

Andesitic.

wt)

Fossil features. 60 m
from base of Fm

- All dico.

Possible Platinaids



Ten O'CLOCK GATE 7 $\frac{1}{2}$

8817 E 60 m S, 480 m E of NW Cor, Sec. 14, T6W
R. 15E, Wheatland Co., MT.

Abt 100 m below

Top of BEARPAW sh.

Ammonites:

Sphenodiscus

Baculites grandis

Inoceramus

Clam

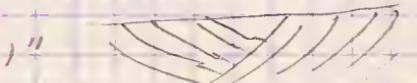


8818 380 m S, 180 m W, NE Cor, Sec 31,
T 6 N, R 15 E, Wheatland Co, MT
Merville NW 7 1/2" Q

Torrejonian To³ Flora

AT base of a cross-
bedded ss lens

Siltst interbed 3" thick
AT base



3 in { ← Lvs

Congl

of pebbles

C 14573

Mellosocer

wood frags

+ conks

Platanus Nobilis
Naynoides
+ seed heads of PLAT
Carya antiquorum
Metasequoia occidentalis
cone



8/8/88

8819 Upper Lebo Mbr F.U.Gp

DARK grey SHAKE
w/

O *Zingiberopsidina*
metasequoia

- *Cercidiphyllum*
- STROP like leaf
BARK SWAMP flora

Torrejonian?

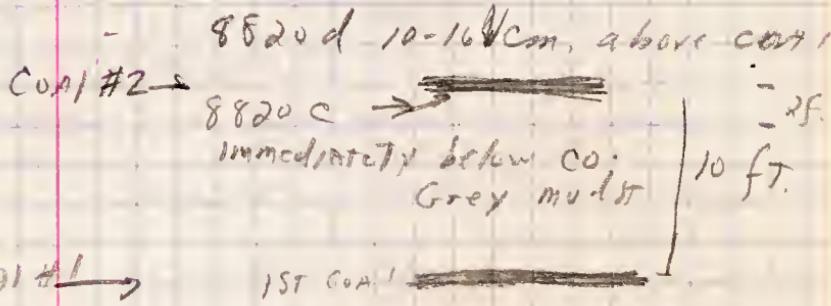


8/8/88

8820

Five Mile Hill N. of
Custer, Yellowstone Co., Mont.

Olive greenish gumbo
Hell Creek Sequence
CAPPED by Yellow Ft. Union
S.S. & MUDST.





Sect. 8820

Cliff
forming
SS

			Grey mudst. comm. phragm. iron bands.
8820c	COAL #3	immediately below	42 cm
8820d	COAL H.2	→ 10-16 cm + cap	CArb Sh., mudst 5.4 m rooted 17. grey mudst sh
8820c		→	13 cm
8820b	COAL H.1		grey mudst. dark variegated as top w. limonite bands.
8820a		10 cm below COAL #1	3.2 m
8820e	samples	grey S1.75 ft w. limonite.	8820e 50 cm.
8820c		immediately below COAL #3	
8820d		10 cm + COAL #2	
8820c		immediately below COAL #2	
8820b		top 2 cm COAL #1	
8820a		10 cm - COAL #1	
8820e		25 cm below TD 0.5 grey S1.75 unit	



8820

8821

+ 2.5 mi mileage from blue equipment
shed or e. side of
road to locality

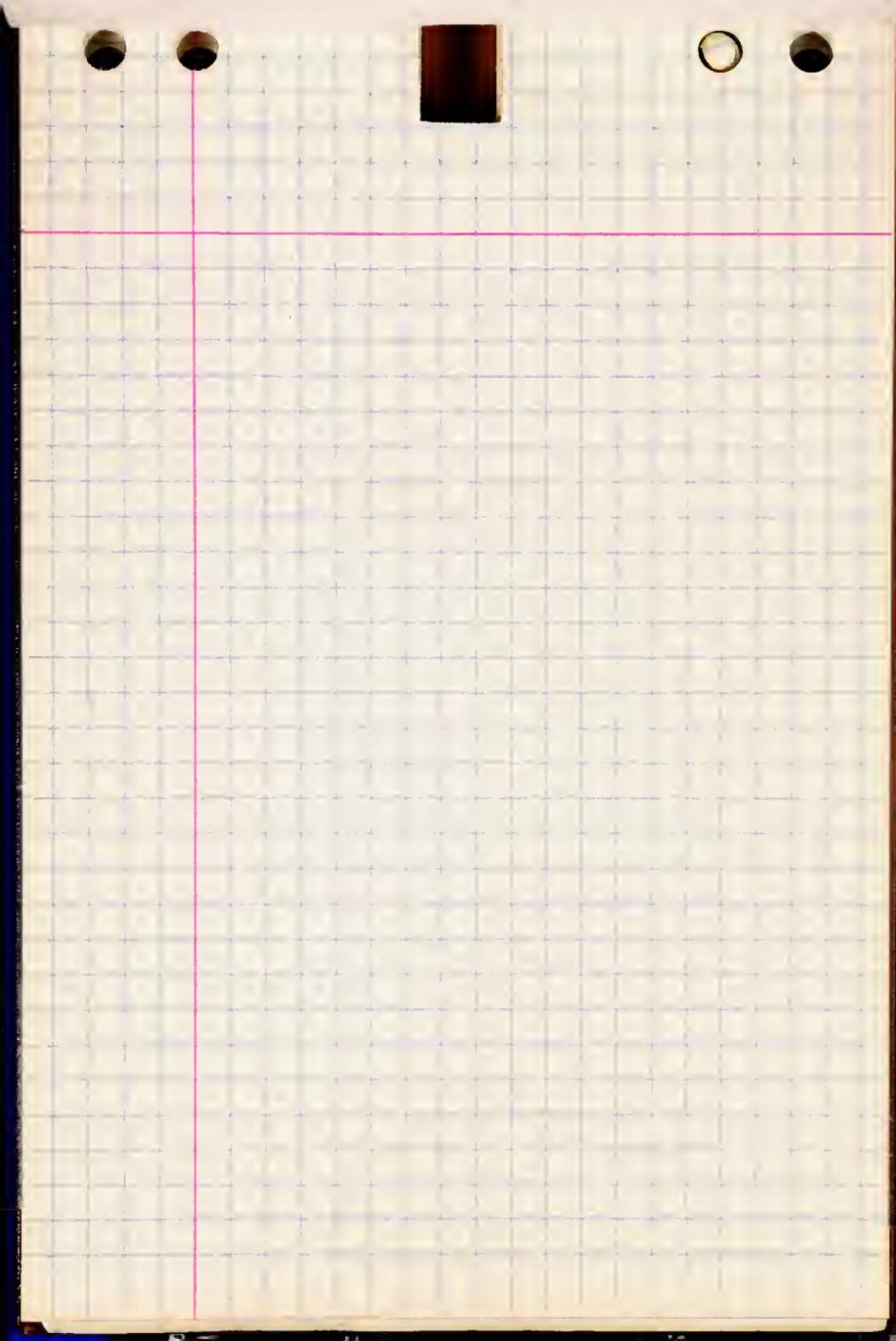
3.5 from end of blacktop

4.1 to N bank of Yellowstone R.

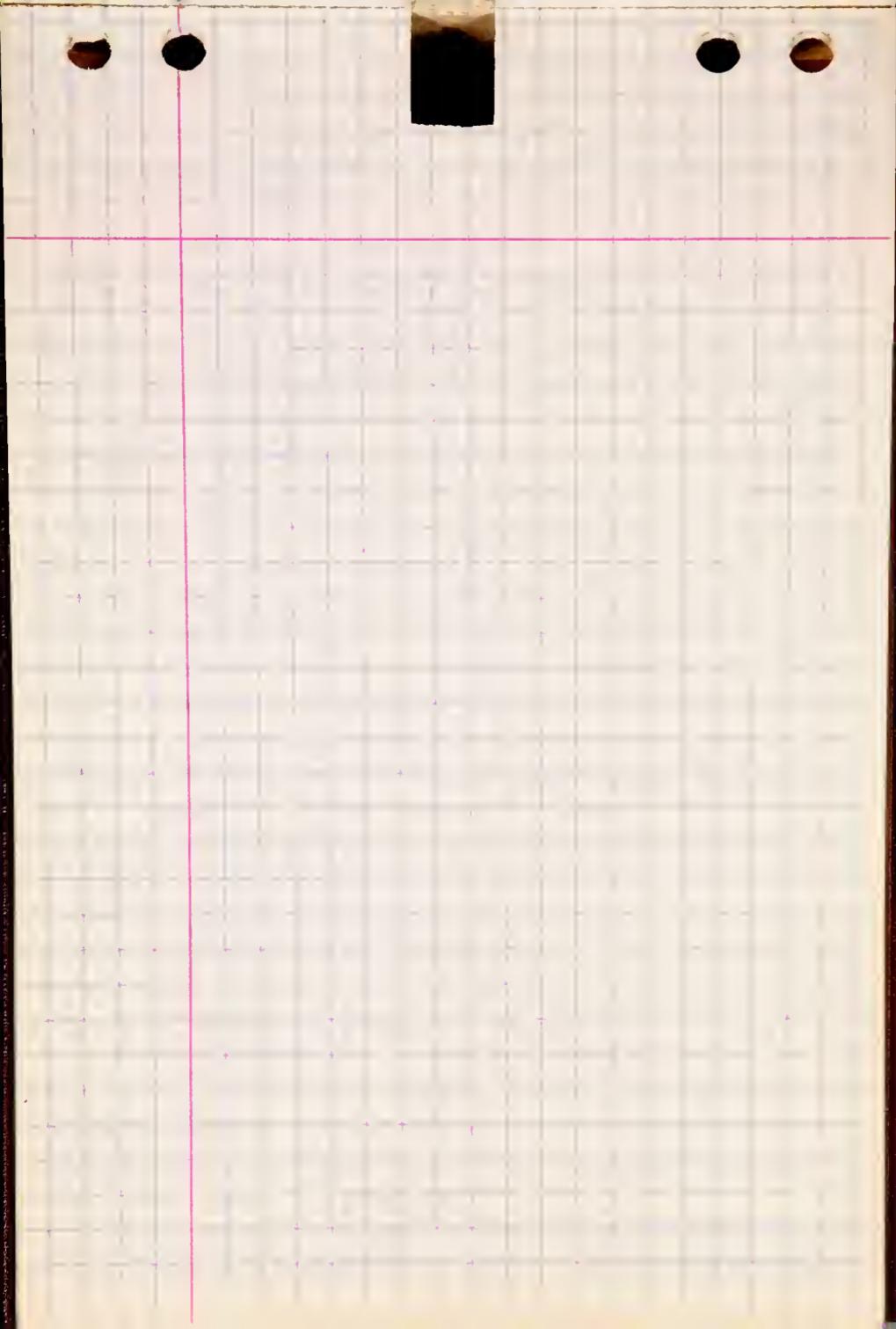
5.0 Custer EXIT of ~~I-94~~ I-94

12.2 EAST of Custer, Mont.
EXIT









IN STORAGE AT Red Lodge
8/88

200 Sample Bags

50 # NO 8 1 1/2" Screws
2 Screw Sets #8 1 1/2"

Ammunition Foil

2 TAMPARLINS
Web Belts

Hand Axe

Goose Neck for 5 gal Berry Can
Deco Cement

Epoxy

SALT TABLETS

Sea Bloc STICK #15

Krylon

50 #10 1 1/2" Screws

1 2qt CANTEEN

1 CANTEC

100ft CLOTH CORD

1 Dottle vodka.

1 SPATIA

1 FILTER funnel

1 50lb Ammunition foill

1 GAS goose neck

1 Griddle

1 YARDSTICK

